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EXAMINER	
HERNANDEZ, NELSON D	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/034,295	WEINTROUB ET AL.	
	Examiner	Art Unit	
	Nelson D. Hernandez	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 December 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 December 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The examiner acknowledges the amendments made on the claims filed on December 14, 2005. Claim 1 has been amended. Claim 2 has been cancelled.

Drawings

2. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because: Information in blocks 12 and 14 in fig. 1 are not legible; labels and information in fig. 3 are not legible; information in fig. 4 is not legible; possible missing parts in drawings and information in fig. 5 is not legible; possible missing parts in drawings and information in fig. 6 is not legible, blocks for flowchart in fig. 7 are not legible. Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Response to Arguments

3. Applicant's arguments filed December 14, 2005 have been fully considered but they are not persuasive.

The Applicant argues the following:

a. "Claim 1, as amended, is patentable over Katsuki in view of Takemoto, since Katsuki in view of Takemoto neither describe nor suggest "... providing a focus accuracy parameter, the focus accuracy parameter derived from the file size of the compressed file; and determining from the focus accuracy parameter, the distance required to move a lens to bring the lens into focus".

The Examiner respectfully disagrees, the combined teaching of Katsuki in view of Takemoto teaches providing a focus accuracy parameter (Katsuki teaches the focus accuracy parameter by teaching determining if the compressed image is compressed to a target amount so the microcontroller 35 adjust the focusing on the camera based on said determination (see steps S22 and S23); Takemoto also teaches providing a focus accuracy parameter by teaching calculating focal information of the imaging system based on the compressed image signal which is received from the compression means (see col. 3, lines 35-53)), the focus accuracy parameter derived from the file size of the compressed file (See Takemoto, col. 3, lines 35-53); and determining from the focus accuracy parameter, the distance required to move a lens to bring the lens into focus (Takemoto teaches moving the lens based on the focal information determined from the compressed image signal; see col. 5, lines 8-21).

b. "Claim 5 is neither described nor suggested by the references since the references taken separately or in combination neither describe nor suggest the combination of "... a compression engine, responsive to the image detector to

provide a compressed data file; and a digital processor to compare the size of each compressed data file and to provide a control signal to the motor to move the lens to a position that creates the largest compressed data file".

The Examiner disagrees, the combined teaching of Katsuki in view of Takemoto teaches the compression engine, (see Katsuki, MPEG Video Processor shown in fig. 2: 44; see also Takemoto, fig. 1: 2) responsive to the image detector to provide a compressed data file; and a digital processor to compare the size of each compressed data file (See Katsuki, fig. 2: 42, wherein the focus accuracy parameter is obtained by determining if the compressed image is compressed to a target amount so the microcontroller 35 adjust the focusing on the camera based on said determination; see steps S22 and S23) and to provide a control signal to the motor to move the lens to a position that creates the largest compressed data file" (Takemoto teaches moving the lens based on the focal information determined from the compressed image signal to obtain a more detailed image; see col. 5, lines 8-21; by teaching obtaining a more detailed image, Takemoto teaches that a largest compressed data file is obtained (the size of a data file is proportional to how detailed is the image obtained)).

c. "Claim 6 is neither described nor suggested by the references since the references taken separately or in combination neither describe nor suggest the combination of "capturing a first image, and digitally compressing and storing the data; moving the lens to another position; capturing a second image and digitally

compressing and storing the data; and comparing the size of the data file of the first image with the size of the data file of the second image and moving the lens in-the direction of the position providing the larger file size".

The Examiner disagrees, the combined teaching of Katsuki in view of Owada teaches capturing a first image, and digitally compressing and storing the data (See Katsuki, col. 4, lines 14-64; col. 9, line 12 – col. 10, lines 19, wherein a first image is captured and compressed, and the size of the compressed image is compared with a target amount in order to change the focus of the image so as to obtain said target amount); moving the lens to another position; capturing a second image and digitally compressing and storing the data; and comparing the size of the data file of the first image with the size of the data file of the second image and moving the lens in-the direction of the position providing the larger file size" (Owada, page 3, ¶ 0048-0050 and page 4, ¶ 0057, wherein two images are captured at different lens positions and the size of said two images are compared in order to determine the best focus position where the image acquires the highest contrast. By obtaining an image with higher contras, Owada teaches obtaining a larger data file size).

d. Arguments regarding claim 7 are discussed in the response of arguments of claim 5.

e. "Claim 15 is neither described nor suggested by the references since the references taken separately or in combination neither describe nor suggest the method of "moving the lens to one of a plurality of positions and capturing

through the lens and digitally compressing a digital image of the test target to provide a compressed image file having a file size; moving the lens to another one of a plurality of positions and capturing through the lens and digitally compressing a digital image of the test target to provide a compressed image file having a file size until the file size is maximized; and fixing the lens within the unit under test at the position that provides the maximum file size."

The Examiner disagrees, the combined teaching of Katsuki in view of Owada teaches moving the lens to one of a plurality of positions and capturing through the lens and digitally compressing a digital image (See Katsuki, col. 4, lines 14-64; col. 9, line 12 – col. 10, lines 19, wherein a first image is captured and compressed, and the size of the compressed image is compared with a target amount in order to change the focus of the image so as to obtain said target amount) of the test target to provide a compressed image file having a file size; moving the lens to another one of a plurality of positions and capturing through the lens and digitally compressing a digital image of the test target to provide a compressed image file having a file size until the file size is maximized; and fixing the lens within the unit under test at the position that provides the maximum file size (Owada, page 3, ¶ 0048-0050 and page 4, ¶ 0057, wherein two images are captured at different lens positions and the size of said two images are compared in order to determine the best focus position where the image acquires the highest contrast. By obtaining an image with higher contras, Owada teaches obtaining a larger data file size).

f. "Claim 16 is neither described nor suggested by the references since the references taken separately or in combination neither describe nor suggest the method of "... replicating a test target over regions of an object plane as it passes through the lens; capturing an image of the test target with the sensor and segmenting the image into regions corresponding to the regions of the object plane and compressing a digital image corresponding to each region and recording the relative size of the compressed image for each region; and adjusting the location of the sensor relative to the lens to set axial and tilt adjustments such-that the relative size of the composed image for each region is maximized".

Examiner respectfully disagrees, the combined teaching of Yamasaki in view of Novak and further in view of Katsuki teaches replicating a test target over regions of an object plane as it passes through the lens (See Yamasaki, lens in fig. 1: 12); capturing an image of the test target with the sensor and segmenting the image into regions corresponding to the regions of the object plane (See Yamasaki, col. 6, lines 45-67; col. 7, lines 15-32) and compressing a digital image corresponding to each region (Novak teaches an image focusing method, wherein a captured image is divided in a plurality of regions, wherein the image regions are compressed and corrected to be integrated in a single image having an increased depth of field (Page 2, ¶ 0038; page 4, ¶ 0061-0066; page 7, ¶ 0088-0089)) and recording the relative size of the compressed image (Katsuki teaches digitally compressing the digital image (Using MPEG Video Processor

shown in fig. 2: 44) to provide a compressed file having a file size) for each region; and adjusting the location of the sensor relative to the lens to set axial and tilt adjustments such-that the relative size of the compressed image for each region is maximized" (Yamasaki teaches performing focus adjustments based on the all focus-detecting regions (Col. 6, lines 45-67; col. 7, lines 15-54, col. 8, lines 13-54), the purpose of focusing is to obtain a more detailed image leading to a larger size for each region of the compressed image).

g. Arguments regarding claim 17 are discussed in the response of arguments of claim 15.

h. Arguments regarding claim 19 are discussed in the response of arguments of claim 5.

4. Therefore the rejections made on claims 1-19 are maintained.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1, 5, 7-10, 12, 13 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuki, US Patent 6,798,447 B1 in view of Takemoto, US Patent 5,065,246.

Regarding claim 1, Katsuki discloses a method comprising: capturing at least a portion of an image (Using CCD in fig. 2: 31) in a field of view to provide a digital image; digitally compressing the digital image (Using MPEG Video Processor shown in fig. 2: 44) to provide a compressed file having a file size; and providing a focus accuracy parameter, the focus accuracy parameter (Katsuki teaches the focus accuracy parameter by teaching determining if the compressed image is compressed to a target amount so the microcontroller 35 adjust the focusing on the camera based on said determination (see steps S22 and S23)) derived from the file size of the compressed file (See step S22 in fig. 8) (Col. 4, lines 14-64; col. 9, line 12 – col. 10, line 19).

Katsuki does not explicitly disclose determining from the focus accuracy parameter, the distance required to move a lens to bring the lens into focus.

However, Takemoto teaches a method of determining form the image data a focus accuracy parameter use to determine a distance needed to bring the image into focus so as to obtain a more detailed image (See col. 2, lines 8-53; col. 3, line 33 – col. 4, line 24).

Therefore, taking the combined teaching of Katsuki in view of Takemoto as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Katsuki by determining from the focus accuracy parameter, the distance required to move a lens to bring the lens into focus. The motivation to do so would help to improve the focusing operation of the system since the operation is carried out in the operation means and the number of parts required for the automatic focusing is reduced as suggested by Takemoto (Col. 2, lines 25-53).

Regarding claim 5, Katsuki discloses a lens focusing system comprising: a lens (Fig. 2: 11) in a field of view of an image detector (Fig. 2: 31); a mechanism to move the lens (Fig. 2: 13); a compression engine (MPEG Video Processor shown in fig. 2: 44), responsive to the image detector, to provide a compressed data file; and a digital processor (Fig. 2: 42) to compare the size of each compressed data file and to provide a control signal to the motor to move the lens to a position to lower the size of the of the compressed image (Col. 4, lines 14-64; col. 9, line 12 – col. 10, line 19).

Katsuki does not explicitly disclose moving the lens to a position that creates the largest compressed data file.

However, moving the lens to create the largest image data or compressed image data is well known in the art as taught by Takemoto who teaches a focusing system that perform focus adjustment based on the compressed image data so as to obtain a more detailed image, (Is expected that by obtaining a more detailed image, a larger compressed data file is obtained) (See col. 2, lines 8-53; col. 3, line 33 – col. 4, line 24).

Therefore, taking the combined teaching of Katsuki in view of Takemoto as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Katsuki by moving the lens to a position that creates the largest compressed data file. The motivation to do so would help to improve the focusing operation of the system since the operation is carried out in the operation means and the number of parts required for the automatic focusing is reduced as suggested by Takemoto (Col. 2, lines 25-53).

Regarding claim 7, the combined teaching of Katsuki in view of Takemoto as applied to claim 5 teaches a method for the system as claimed. Therefore, grounds for rejecting claim 5 apply here.

Regarding claim 8, the combined teaching of Katsuki in view of Takemoto does not teach that the size signal is a digital word indicative of the size of the compressed digital image.

However, Official Notice is taken that the signal used to represent the size of the image is relative to the size of the image data. (If is a small image data size, the signal can be represented with a digital word or less; if is a large amount of data, the signal may need more that a word to represent the size of the image data) and, it would have been obvious to one of ordinary skill in the art at the time the invention was made to represent the size of the image data with a particular amount of bits (i.e. a word) with the motivation of accelerate the process of focusing by processing less amount of data when reading the image data size.

Regarding claim 9, the combined teaching of Katsuki in view of Takemoto does not teach that the compressed digital signal is a JPEG compressed image.

However, Official Notice is taken that compressing image using JPEG standard is notoriously well known in the art at the time the invention was made and would have been obvious to one of ordinary skill in the art to use JPEG standard to compress the image data with the motivation of reducing the amount of data to be read by the system so as to reduce the amount of time performing the focusing process.

Regarding claim 10, the combined teaching of Katsuki in view of Takemoto teaches that the detector comprises a charge coupled device (See Katsuki, fig. 2: 31) having a plurality of light receiving pixels and color filters provided in front of said light receiving pixels, each of said color filters transmitting one of said plurality of color components (Taught by Takemoto when teaching processing R-Y and B-Y signals, having color filters provided in front of the sensor is necessitated so as to obtain said color signals) (See Katsuki, col. 4, lines 14-64; col. 9, line 12 – col. 10, line 19; Takemoto, col. 10, lines 6-25).

Regarding claims 12, the combined teaching of Katsuki in view of Takemoto teaches the controller initially moves the lens in a predetermined direction by a predetermined amount (Katsuki teaches moving the lens several times in the same direction until the amount of compressed image data reaches a predetermined amount; col. 4, lines 14-64; col. 9, line 12 – col. 10, line 19).

Regarding claim 13, grounds for rejecting claim 12 apply here.

Regarding claim 19, the combined teaching of Katsuki in view of Takemoto as applied to claims 5 and 7 teaches a method and system comprising the same limitations as claimed. Therefore, grounds for rejecting claims 5 and 7 apply here.

7. Claims 3, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuki, US Patent 6,798,447 B1 in view of Takemoto, US Patent 5,065,246 and further in view of Owada, US 2002/0006281 A1.

Regarding claim 3, the combined teaching of Katsuki in view of Takemoto fails to teach determining form the focus accuracy parameter, the range to an object in the image.

However, Owada discloses a focus detection device wherein two images taken at different focus positions are compared so as to determine the best focus position where the image acquires the highest contrast, also teaches measuring distance form the object being photographed to the image sensor using the same so as to obtain high contrast object image. (Page 3, ¶ 0036-0037 and ¶0048-0050; page 4, ¶ 0057-0063) (By obtaining an image with higher contrast, a larger data file size is obtained).

Therefore, taking the combined teaching of Katsuki in view of Takemoto and further in view Owada as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Katsuki by determining form the focus accuracy parameter, the range to an object in the image. The motivation to do so would help to perform focus detection from a high contrast object images, irrespective of color of an object as suggested by Oawada (Page 2, ¶ 0019-0020).

Regarding claim 4, the combined teaching of Katsuki in view of Takemoto teaches a method of focusing a lens (See Katsuki, fig. 2: 11) comprising: capturing a image (Using CCD in fig. 2: 31 as taught in Katsuki) and digitally compressing and storing the data; comparing the size of the data file image and moving the lens in the direction of the position to lower the size of the of the compressed image (See Katsuki, col. 4, lines 14-64; col. 9, line 12 – col. 10, line 19).

The combined teaching of Katsuki in view of Takemoto fails to teach extracting a second focus accuracy parameter, the second focus accuracy parameter indicative of the focus accuracy of the second image; and comparing the focus accuracy parameter with the second focus accuracy parameter to determine which digital image is best focused.

However, Owada discloses a focus detection device wherein two images taken at different focus positions are compared so as to determine the best focus position where the image acquires the highest contrast (Page 3, ¶ 0048-0050; page 4, ¶ 0057) (By obtaining an image with higher contrast, a larger data file size is obtained).

Therefore, taking the combined teaching of Katsuki in view of Takemoto and further in view of Owada as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Katsuki by comparing two images taken at different focus positions so as to determine the best focus position where the image acquires the highest file size. The motivation to do so would help to perform focus detection from a high contrast object images at all times, irrespective of color of an object as suggested by Oawada (Page 2, ¶ 0019-0020).

8. Claims 6, 15, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuki, US Patent 6,798,447 B1 in view of Owada, US 2002/0006281 A1.

Regarding claim 6, Katsuki discloses a method of focusing a lens (Fig. 2: 11) comprising: capturing a image (Using CCD in fig. 2: 31) and digitally compressing and storing the data; comparing the size of the data file image and moving the lens in the

direction of the position to lower the size of the of the compressed image (Col. 4, lines 14-64; col. 9, line 12 – col. 10, line 19).

Katsuki does not explicitly disclose moving the lens to another position; capturing a second image and digitally compressing and storing the data; and comparing the size of the data file of the first image with the size of the data file of the second image and moving the lens in the direction of the position providing the larger file size.

However, Owada discloses a focus detection device wherein two images taken at different focus positions are compared so as to determine the best focus position where the image acquires the highest contrast (Page 3, ¶ 0048-0050; page 4, ¶ 0057) (By obtaining an image with higher contrast, a larger data file size is obtained).

Therefore, taking the combined teaching of Katsuki in view of Owada as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Katsuki by comparing two images taken at different focus positions so as to determine the best focus position where the image acquires the highest file size. The motivation to do so would help to perform focus detection from a high contrast object images at all times, irrespective of color of an object as suggested by Oawada (Page 2, ¶ 0019-0020).

Regarding claim 15, Katsuki discloses a method of locating a lens (Fig. 2: 11) in a unit under test comprising: placing a test target a fixed distance from the unit under test (object being photographed); moving the lens to one of a plurality of positions and capturing through the lens and digitally compressing a digital image of the test target to provide a compressed image (Using MPEG Video Processor shown in fig. 2: 44) file

having a file size; moving the lens to another one of a plurality of positions and capturing through the lens and digitally compressing a digital image of the test target to provide a compressed image file having a file size until the file size reaches a predetermined amount; and fixing the lens within the unit under test at the position that provides said predetermined amount (Col. 4, lines 14-64; col. 9, line 12 – col. 10, line 19)

Katsuki does not explicitly disclose moving the lens to another one of a plurality of positions and capturing through the lens and digitally compressing a digital image of the test target to provide a compressed image file having a file size until the file size is maximized; and fixing the lens within the unit under test at the position that provides the maximum file size.

However, Owada discloses a focus detection device wherein two images taken at different focus positions are compared so as to determine the best focus position where the image acquires the highest contrast (Page 3, ¶ 0048-0050; page 4, ¶ 0057) (By obtaining an image with higher contrast, a larger data file size is obtained).

Therefore, taking the combined teaching of Katsuki in view of Owada as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Katsuki by comparing two images taken at different focus positions so as to determine the best focus position where the image acquires the highest file size. The motivation to do so would help to perform focus detection from a high contrast object images at all times, irrespective of color of an object as suggested by Oawada (Page 2, ¶ 0019-0020).

Regarding claim 17, the combined teaching of Katsuki in view of Owada as applied to claim 15 teaches the method as claimed. Therefore, grounds for rejecting claim 16 apply here.

Regarding claim 18, the combined teaching of Katsuki in view of Owada does not teach that the compressed digital signal is a JPEG compressed image.

However, Official Notice is taken that compressing image using JPEG standard is notoriously well known in the art at the time the invention was made and would have been obvious to one of ordinary skill in the art to use JPEG standard to compress the image data with the motivation of reducing the amount of data to be read by the system so as to reduce the amount of time performing the focusing process.

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuki, US Patent 6,798,447 B1 in view of Takemoto, US Patent 5,065,246 and further in view of Owada, US 2002/0006281 A1.

Regarding claim 11, the combined teaching of Katsuki in view of Takemoto does not teach that the controller that controls said driver (See Takemoto, fig. 2: 24) to locate said lens where the size signal becomes greatest by moving said lens along the optical axis to a plurality of lens positions and comparing between values of said size signal measured at said lens positions.

However, Owada discloses a focus detection device wherein two images taken at different focus positions are compared so as to determine the best focus position where the image acquires the highest contrast (Page 3, ¶ 0048-0050; page 4, ¶ 0057) (By obtaining an image with higher contrast, a larger data file size is obtained).

Therefore, taking the combined teaching of Katsuki in view of Takemoto and further in view of Owada as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system by comparing two images taken at different focus positions so as to determine the best focus position where the image acquires the highest file size. The motivation to do so would help to perform focus detection from a high contrast object images at all times, irrespective of color of an object as suggested by Oawada (Page 2, ¶ 0019-0020).

10. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuki, US Patent 6,798,447 B1 in view of Takemoto, US Patent 5,065,246 and further in view of Morimoto, US Patent 6,487,366 B1.

Regarding claim 14, the combined teaching of Katsuki in view of Takemoto does not teach that a numerical function maximizing technique is used to determine the greatest size signal.

However, Morimoto teaches a system (See figs. 13 and 14) for compressing image data based by changing the position of the lens system to defocus the image for representing a selected numerical image compression ratio (i.e. a predefined table) (Col. 4, lines 7-67; col. 5, lines 1-55; col. 7, lines 41-56; col. 8, lines 34-63).

Therefore, taking the combined teaching of Katsuki in view of Takemoto and further in view of Morimoto as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a numerical function maximizing technique is used to determine the amount of data of the size signal after compression. The motivation to do so would help the user to obtain a desired amount

of compressed data size from the captured image as suggested by Morimoto (Col. 2, lines 27-60).

11. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamasaki, US Patent 5,138,360 in view of Novak, US 2002/0141658 A1 and further in view of Katsuki, US Patent 6,798,447 B1.

Regarding claim 16, Yamasaki discloses a method of locating a sensor (See fig. 5) relative to a lens (Fig. 3B: 12) in a unit under test comprising; replicating a test target over regions of an object plane as it passes through the lens (See lens in fig. 1: 12); capturing an image of the test target with the sensor and segmenting the image into regions corresponding to the regions of the object plane (See col. 6, lines 45-67; col. 7, lines 15-32); and adjusting the location of the sensor relative to the lens to set axial and tilt adjustments (See fig. 5) such that the focus to the image for each region is maximized (By performing focusing the captured image becomes more detailed resulting in a larger image file) (Col. 6, lines 45-67; col. 7, lines 15-54, col. 8, lines 13-54).

Yamasaki does not explicitly disclose compressing a digital image corresponding to each region and recording the relative size of the compressed image for each region and adjusting the location of the sensor relative to the lens to set axial and tilt adjustments such that the relative size of the compressed image for each region is maximized.

However, Novak teaches an image focusing method, wherein a captured image is divided in a plurality of regions, wherein the image regions are compressed and

corrected to be integrated in a single image having an increased depth of field (Page 2, ¶ 0038; page 4, ¶ 0061-0066; page 7, ¶ 0088-0089).

Therefore, taking the combined teaching of Yamasaki in view of Novak as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yamasaki by compressing a digital image corresponding to each region. The motivation to do so would help to minimize the amount of data stored in the system memory.

The combined teaching of Yamasaki in view of Novak fails to teach recording the relative size of the compressed image for each region and adjusting to perform focusing.

However, Katsuki teaches a method comprising: capturing at least a portion of an image (Using CCD in fig. 2: 31) in a field of view to provide a digital image; digitally compressing the digital image (Using MPEG Video Processor shown in fig. 2: 44) to provide a compressed file having a file size; and providing a focus accuracy parameter, the focus accuracy parameter (See step S23 in fig. 8) derived from the file size of the compressed file (See step S22 in fig. 8) (Col. 4, lines 14-64; col. 9, line 12 – col. 10, line 19).

Therefore, taking the combined teaching of Yamasaki in view of Novak and further in view of Katsuki as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to record the relative size of the compressed image for each region and adjusting to perform focusing. The motivation to

do so would help to perform focusing based on the amount of compress image data as suggested by Katsuki (Col. 4, lines 14-64; col. 9, line 12 – col. 10, line 19).

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nelson D. Hernandez whose telephone number is (571) 272-7311. The examiner can normally be reached on 8:30 A.M. to 6:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc Yen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nelson D. Hernandez
Examiner
Art Unit 2612

NDHH
February 24, 2006

DAVID OMETZ
SUPERVISORY PATENT EXAMINER